WHAT IS CLAIMED IS:

1. An apparatus including an automated X-ray imaging system for producing a plurality of X-ray imaging signals, comprising:

an X-ray emission system responsive to at least one emission control signal by providing at least first and second doses of X-ray radiation, wherein said second dose differs from said first dose in one or more of a plurality of X-ray radiation characteristics;

an X-ray detection system responsive to at least one detection control signal and for placement in relation to said X-ray emission system to be responsive to respective portions of said first and second doses of X-ray radiation following exposure thereto of a portion of a subject disposed substantially between said X-ray emission and detection systems by providing corresponding first and second image signals; and

a control system, coupled to said X-ray emission and detection systems, responsive to said first and second image signals by providing said emission and detection control signals, wherein said second image signal differs from said first image signal in one or more of a plurality of image characteristics.

2. The apparatus of claim 1, wherein said one or more of a plurality of X-ray radiation characteristics comprises at least one of intensity, focal spot and collimation.

3. The apparatus of claim 1, wherein said one or more of a plurality of image characteristics comprises image resolution.

4. The apparatus of claim 1, wherein:

said one or more of a plurality of X-ray radiation characteristics comprises at least one of intensity, focal spot and collimation; and

said one or more of a plurality of image characteristics comprises image resolution.

5. The apparatus of claim 1, wherein:

said subject portion defines a target region for said respective portions of said first and second doses of X-ray radiation;

said target region is disposed in a first spatial relation to said X-ray emission system;

said target region is disposed in a second spatial relation to said X-ray detection system; and

said X-ray emission system is further responsive to said at least one emission control signal by controlling said first spatial relation.

6. The apparatus of claim 1, wherein:

said subject portion defines a target region for said respective portions of said first and second doses of X-ray radiation;

said target region is disposed in a first spatial relation to said X-ray emission system;

said target region is disposed in a second spatial relation to said X-ray detection system; and

said X-ray detection system is further responsive to said at least one detection control signal by controlling said second spatial relation.

7. The apparatus of claim 1, wherein:

said subject portion defines a target region for said respective portions of said first and second doses of X-ray radiation;

said target region is disposed in a first spatial relation to said X-ray emission system;

said target region is disposed in a second spatial relation to said X-ray detection system;

said X-ray emission system is further responsive to said at least one emission control signal by controlling said first spatial relation; and

said X-ray detection system is further responsive to said at least one detection control signal by controlling said second spatial relation.

8. The apparatus of claim 1, wherein said X-ray emission system comprises:

an X-ray source responsive to a first portion of said at least one emission control signal by providing X-ray radiation with at least one of said plurality of X-ray radiation characteristics corresponding to said first portion of said at least one emission control signal; and

a collimator coupled to said X-ray source and responsive to a second portion of said at least one emission control signal by conveying said X-ray radiation with at least another of said plurality of X-ray radiation characteristics corresponding to said second portion of said at least one emission control signal.

9. The apparatus of claim 1, wherein said X-ray detection system comprises detection circuitry responsive to a first portion of said at least one detection control signal and

said respective portions of said first and second doses of X-ray radiation by providing a plurality of pixel signals.

10. The apparatus of claim 9, wherein said X-ray detection system further comprises processing circuitry coupled to said detector circuitry and responsive to a second portion of said at least one detection control signal and said plurality of pixel signals by providing said first and second image signals.

11. The apparatus of claim 1, wherein said control system comprises:

receiving circuitry responsive to said first and second image signals by storing a corresponding plurality of image data;

processing circuitry, coupled to said receiving circuitry, to selectively process said plurality of stored image data and a plurality of reference data and in response thereto provide a plurality of control data; and

control circuitry coupled to said processing circuitry and responsive to said plurality of control data by providing said emission and detection control signals.

12. The apparatus of claim 11, wherein said receiving circuitry comprises data memory circuitry.

13. The apparatus of claim 11, wherein said processing circuitry comprises:

data memory circuitry to store said plurality of reference data; and

a computer, coupled to said data memory circuitry, to process said pluralities of reference and stored image data and in response thereto provide said plurality of control data.

14. The apparatus of claim 1, wherein said at least one emission control signal comprises at least one signal for controlling at least one of a plurality of operating parameters for said X-ray emission system.

15. The apparatus of claim 14, wherein said at least one of a plurality of operating parameters for said X-ray emission system comprises at least one of a voltage, a current, a focal spot and collimation.

16. The apparatus of claim 1, wherein said at least one detection control signal comprises at least one signal for controlling at least one of a plurality of operating parameters for said X-ray detection system.

17. The apparatus of claim 14, wherein said at least one of a plurality of operating parameters for said X-ray detection system comprises at least one of bias and dynamic range.

18. A automated method for producing a plurality of X-ray imaging signals corresponding to selected views of a subject with selectively variable image resolutions, comprising:

receiving at least one emission control signal;

generating, in response to said at least one emission control signal, at least first and second doses of X-ray radiation, wherein said second dose differs from said first dose in one or more of a plurality of X-ray radiation characteristics;

receiving respective portions of said first and second doses of X-ray radiation following exposure thereto of a portion of a subject;

receiving at least one detection control signal;

generating, in response to said at least one detection control signal and said respective portions of said first and second doses of X-ray radiation, first and second image signals;

processing said first and second image signals; and

generating, in response to said processed first and second image signals, said emission and detection control signals, wherein said second image signal differs from said first image signal in one or more of a plurality of image characteristics.

19. The method of claim 18, wherein said one or more of a plurality of X-ray radiation characteristics comprises at least one of intensity, focal spot and collimation.

20. The method of claim 18, wherein said one or more of a plurality of image characteristics comprises image resolution.

21. The method of claim 18, wherein

said one or more of a plurality of X-ray radiation characteristics comprises at least one of intensity, focal spot and collimation; and

said one or more of a plurality of image characteristics comprises image resolution.

22. The method of claim 18, wherein:

said generating, in response to said at least one emission control signal, at least first and second doses of X-ray radiation comprises generating with an X-ray emission system, in response to said at least one emission control signal, at least first and second doses of X-ray radiation;

said receiving respective portions of said first and second doses of X-ray radiation following exposure thereto of a portion of a subject comprises receiving with an X-ray detection system respective portions of said first and second doses of X-ray radiation following exposure thereto of a portion of a subject disposed substantially between said X-ray emission and detection systems;

said subject portion defines a target region for said respective portions of said first and second doses of X-ray radiation; and

said method further comprises

disposing said target region in a first spatial relation to said X-ray emission system,

disposing said target region in a second spatial relation to said X-ray detection system, and

controlling said first spatial relation in further response to said at least one emission control signal.

23. The method of claim 18, wherein:

said generating, in response to said at least one emission control signal, at least first and second doses of X-ray radiation comprises generating with an X-ray emission system, in response to said at least one emission control signal, at least first and second doses of X-ray radiation;

said receiving respective portions of said first and second doses of X-ray radiation following exposure thereto of a portion of a subject comprises receiving with an X-ray detection system respective portions of said first and second doses of X-ray radiation following exposure thereto of a portion of a subject disposed substantially between said X-ray emission and detection systems;

said subject portion defines a target region for said respective portions of said first and second doses of X-ray radiation; and

said method further comprises

disposing said target region in a first spatial relation to said X-ray emission system,

disposing said target region in a second spatial relation to said X-ray detection system, and

controlling said second spatial relation in further response to said at least one detection control signal.

24. The method of claim18, wherein:

said generating, in response to said at least one emission control signal, at least first and second doses of X-ray radiation comprises generating with an X-ray emission system, in

response to said at least one emission control signal, at least first and second doses of X-ray radiation;

said receiving respective portions of said first and second doses of X-ray radiation following exposure thereto of a portion of a subject comprises receiving with an X-ray detection system respective portions of said first and second doses of X-ray radiation following exposure thereto of a portion of a subject disposed substantially between said X-ray emission and detection systems;

said subject portion defines a target region for said respective portions of said first and second doses of X-ray radiation; and

said method further comprises

disposing said target region in a first spatial relation to said X-ray emission system,

disposing said target region in a second spatial relation to said X-ray detection system,

controlling said first spatial relation in further response to said at least one emission control signal, and

controlling said second spatial relation in further response to said at least one detection control signal.

25. The method of claim 18, wherein said generating, in response to said at least one emission control signal, at least first and second doses of X-ray radiation comprises:

generating, in response to a first portion of said at least one emission control signal, X-ray radiation with at least one of said plurality of X-ray radiation characteristics corresponding to said first portion of said at least one emission control signal; and

collimating, in response to a second portion of said at least one emission control signal, said X-ray radiation.

26. The method of claim 25, wherein said generating, in response to said at least one detection control signal and said respective portions of said first and second doses of X-ray radiation, first and second image signals comprises generating, in response to a first portion of said at least one detection control signal, a plurality of pixel signals.

27. The method of claim 26, wherein said generating, in response to said at least one detection control signal and said respective portions of said first and second doses of X-ray radiation, first and second image signals further comprises processing said plurality of pixel signals to generate said first and second image signals.

28. The method of claim 18, wherein said generating, in response to said processed first and second image signals, said emission and detection control signals comprises storing a plurality of image data corresponding to said first and second image signals.

29. The method of claim 28, wherein said generating, in response to said processed first and second image signals, said emission and detection control signals further comprises processing said plurality of stored image data and a plurality of reference data and in response thereto generating a plurality of control data.

30. The method of claim 29, wherein said generating, in response to said processed first and second image signals, said emission and detection control signals further

comprises generating, in response to said plurality of control data, said emission and detection control signals.

31. The method of claim 18, wherein said generating, in response to said processed first and second image signals, said emission and detection control signals comprises generating at least one signal for controlling at least one of a plurality of parameters for said generating of said at least first and second doses of X-ray radiation.

32. The method of claim 31, wherein said at least one of a plurality of parameters for said generating of said at least first and second doses of X-ray radiation comprises at least one of a voltage, a current, a focal spot and collimation.

33. The method of claim 18, wherein said generating, in response to said processed first and second image signals, said emission and detection control signals comprises generating at least one signal for controlling at least one of a plurality of parameters for said generating of said first and second image signals.

34. The method of claim 33, wherein said at least one of a plurality of parameters for said generating of said first and second image signals comprises at least one of bias and dynamic range.